

REMARKS

Applicants respectfully request entry of amendments to claims 1, 4-7, 10-13, and 16-26. Claims 14 and 15 have been canceled and claims 27-30 are withdrawn without prejudice or disclaimer. Support for the amendments can be found throughout the specification, including paragraphs [0022], [0023], [0025], [0043], [0044], [0060], [0084], [0104], [0107]-[0109], [0117], [0122], [0124], and [0125], and the originally filed claims and, therefore, do not add new matter.

Applicants submit that pending claims 1-13 and 16-26 are in condition for allowance and respectfully request that the claims as amended be entered.

Objection

Applicants have provided herewith an amended claim 23 with the correction as suggested by the Office Action.

For these reasons, Applicants respectfully request that objection be withdrawn.

Restriction Requirement

Applicants affirm the election of Group I drawn to claims 1-26, with traverse.

Rejection Under 35 U.S.C. §112, Second Paragraph

Claims 1-21 stands rejected under 35 U.S.C. §112, second paragraph, as allegedly being indefinite. As claims 14 and 15 have been canceled, the rejection as applied to these claims is rendered moot.

Applicants traverse the rejection as it might apply to the amended claims, including claims dependent therefrom, for the reasons given below.

Regarding claims 1-21 while Applicants do not acquiesce to the reasoning offered in the Office Action, and to expedite prosecution toward allowance, claims 1, 4, 6, and 7 have been amended to no longer recite the disputed terms or allegedly omitted steps.

For these reasons, Applicants respectfully request that the rejection be withdrawn.

Rejection Under 35 U.S.C. §112, First Paragraph

Claims 7-21 and 24 stand rejected under 35 U.S.C. §112, first paragraph, as allegedly lacking enablement. As claims 14 and 15 have been canceled, the rejection as applied to these claims is rendered moot.

Applicants traverse the rejection as it might apply to the amended claims, including claims dependent therefrom, for the reasons given below.

The Office Action alleges, in pertinent part, that the specification does not provide sufficient guidance commensurate in scope with the claims.

While Applicants do not acquiesce to the reasoning offered in the Office Action, and to expedite prosecution toward allowance, claims 7 and 24, including claims dependent therefrom, have been amended such that allegations related to the rate for cross-linking and the rate of exonuclease activity in sequencing reactions are immaterial.

As covalent modification of nucleotides occurs before incorporation into the immobilized nucleic acid molecule, the processivity rate argument for the exonuclease is no longer relevant, therefore, the claims are enabled because the specification provides appropriate guidance, working examples, and prediction of function based on observed properties of the claimed enzyme such that one of skill in the art could practice the invention as claimed, in the absence of undue experimentation.

For these reasons, Applicants respectfully request that the rejection, including as it may be applied to the amended claims, be withdrawn.

Rejections Under 35 U.S.C. §102

Claims 1, 2, 4, and 6 stand rejected under 35 U.S.C. §102(b), as allegedly being anticipated by Kneipp et al.

Applicants traverse the rejection, as it might apply to the amended claims, including claims dependent therefrom, for the reasons given below.

The Office Action alleges, in pertinent part, that the cited reference teaches the elements as recited in the present claims. However, Kneipp et al. do not teach the use of alkali-metal halide salts to enhance the Raman signal from unlabeled nucleotides.

The present claims expressly recite “identifying the released unlabeled nucleotides in a buffer comprising an alkali-metal halide salt by Raman spectroscopy”.

As stated in Hybritech Inc. v. Monoclonal Antibody, Inc., 231 U.S.P.Q. 81 (Fed. Cir. 1986), “It is axiomatic that for prior art to anticipate under 102 it has to meet every element of the claimed invention.”

Therefore, because the instant claims recite alkali-metal halide salt addition, the Kneipp et al. reference does not anticipate the claimed invention.

Failure of the prior art to meet every element of the claimed invention does not meet the standard under 102. For these reasons, Applicants respectfully request that the rejection be withdrawn.

Rejections Under 35 U.S.C. §103

Claims 22-23 and 25-26 stand rejected under 35 U.S.C. §103(a), as allegedly being unpatentable over Dorre et al. in view of Vo-Dinh.

Applicants traverse the rejection as it might apply to the amended claims, including claims dependent therefrom, for the reasons given below.

To establish a *prima facie* case of obviousness, three basic criteria must be met. First there must be some suggestion or motivation in the references themselves or in knowledge generally available to one of skill in the art, to modify the reference or combine the reference teachings. Second, there must be a reasonable expectation of success. And, finally the prior art reference (or references when combined) must teach all claim limitations. The teaching or suggestion and reasonable expectation of success must both be found in the prior art and not in Applicants’ disclosure. (See M.P.E.P. §706.02(j)).

Applicants submit that because the cited references do not teach all the claim limitations, one of skill in the art would not be motivated to combine the reference teachings.

The Office Action alleges, in pertinent part, that Dorre et al. is silent with respect to detection using Raman spectroscopy. The Action then provides Vo-Dinh to cure the deficiency identified in the primary references. However, review of Dorre et al. demonstrates that the

reference does not teach addition of an alkali-metal halide salt to enhance Raman signaling, an element presently recited in the claims.

Because the teachings of Vo-Dinh would not result in a method comprising addition of an alkali-metal halide salt when combined with the teachings of Dorre et al., one of skill in the art would not have an expectation of success since the invention as claimed would not be achieved in view of such teachings. Therefore, one of skill in the art would not be motivated to combine such teachings.

Applicants submit that because there is no reasonable expectation of successfully achieving the invention as claimed, there is no motivation to combine the cited references, thus, no *prima facie* case for obviousness exists. For these reasons, Applicants respectfully request that the rejection, including as it might be applied against the amended claims, be withdrawn.

Claims 3 and 5 stand rejected under 35 U.S.C. §103(a), as allegedly being unpatentable over Kneipp (A) et al. in view of Dorre et al. or Kneipp (B) et al. in view of Matsuura et al.

Applicants traverse the rejection as it might apply to the amended claims, including claims dependent therefrom, for the reasons given below.

Applicants submit that because the cited references do not teach all the claim limitations, one of skill in the art would not be motivated to combine the reference teachings.

The Office Action alleges, in pertinent part, that Kneipp (A) et al. is silent with respect to sequencing of single nucleotide molecules or attachment of the nucleic acid to a surface. The Action then provides Dorre et al, Kneipp (B) et al., and Matsuura et al. to cure the deficiency identified in the primary reference. However, review of Dorre et al, Kneipp (B) et al., and Matsuura et al. demonstrates that these references do not teach addition of an alkali-metal halide salt to enhance Raman signaling, an element presently recited in the claims.

Because the teachings of Dorre et al, Kneipp (B) et al., and Matsuura et al. would not result in a method comprising addition of a alkali-metal halide salt when combined with the teachings of Kneipp (A) et al., one of skill in the art would not have an expectation of success since the invention as claimed would not be achieved in view of such teachings. Therefore, one of skill in the art would not be motivated to combine such teachings.

Applicants submit that because there is no reasonable expectation of successfully achieving the invention as claimed, there is no motivation to combine the cited references, thus, no *prima facie* case for obviousness exists. For these reasons, Applicants respectfully request that the rejection, including as it might be applied against the amended claims, be withdrawn.

Rejections Under the Judicially Created Doctrine of Obviousness-Type Double Patenting

Claims 22 and 24-26 stand provisionally rejected under the judicially created doctrine of obviousness double patenting allegedly over claims 15 and 17-19 of co-pending U.S. Application Ser. No. 11/235,796.

Applicants traverse the rejection as it might apply to the amended claims, including claims dependent therefrom, for the reasons given below.

As claims 1-23 were canceled by Preliminary Amendment, filed September, 26, 2005, the rejection as applied to claims 22 and 24-26 is rendered moot. For this reason, Applicants respectfully request that the rejection against claims 22 and 24-26 be withdrawn.

Claims 22 and 24-26 are alleged to be directed to the same invention as that of claims 15 and 17-19, respectively, of commonly assigned Application No: 11/235,796. It is alleged that the issue of priority under 35 U.S.C. §102(g) and possibly 35 U.S.C. §102(f) must be resolved.

As stated above, since claims 1-23 were canceled by Preliminary Amendment, allegations/questions related to the recited statutes are rendered moot, particularly with respect to complying with the request that Assignee state which entity is the prior inventor of the conflicting subject matter, as well as any resultant abandonment of the instant application in the absence of meeting such a request.

Claims 22, 23, 25, and 26 stand rejected under the judicially created doctrine of obviousness double patenting allegedly over claims 1 and 3-6 of U.S. Patent No. 6,972,173 (i.e., the '173 patent).

Applicants traverse the rejection as it might apply to the amended claims, including claims dependent therefrom, for the reasons given below.

Respectfully, in general, a generic claim should require no material element additional to those required by the species claims, and each of the species claims must require all of the

limitations of the generic claims (see, e.g., M.P.E.P. §806.04(d)). Applicants submit that amended claims 22, 23, 25, and 26 of the instant application require additional material elements (e.g., alkali-metal halide salt addition) to those required by the alleged species claims 1, 5, and 6 of the '173 patent.

For this reason, Applicants respectfully request that the rejection against claims 22, 23, 25, and 26 be withdrawn.

Claims 7, 8, 11, 12, and 17-19 stand provisionally rejected under the judicially created doctrine of obviousness double patenting allegedly over claims 1, 3-5, 8, and 11-12 of co-pending Application No. 11/235,796.

Applicants traverse the rejection as it might apply to the amended claims, including claims dependent therefrom, for the reasons given below.

As claims 1-23 were canceled by Preliminary Amendment, filed September, 26, 2005, the rejection as applied to claims 7, 8, 11, 12, and 17-19 is rendered moot. For this reason, Applicants respectfully request that the rejection against claims 7, 8, 11, 12, and 17-19 be withdrawn.

Claims 7-9, 17-19, and 22-25 stand provisionally rejected under the judicially created doctrine of obviousness double patenting allegedly over claims 1, 2, 5, 6, 12, 14, 15, and 18 of co-pending Application No. 10/108,128 (the '128 application).

Applicants traverse the rejection as it might apply to the amended claims, including claims dependent therefrom, for the reasons given below.

Respectfully, in general, a generic claim should require no material element additional to those required by the species claims, and each of the species claims must require all of the limitations of the generic claims (see, e.g., M.P.E.P. §806.04(d)). Applicants submit that amended claims 7-9, 17-19, and 22-25 of the instant application require additional material elements (e.g., alkali-metal halide salt addition) to those required by the alleged species claims 1, 2, 5, 6, 12, 14, 15, and 18 of the '128 application.

For this reason, Applicants respectfully request that the rejection against claims 7-9, 17-19, and 22-25 be withdrawn.

In re Application of:
Xing Su et al.
Application No.: 10/660,902
Filing Date: September 12, 2003
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Attorney Docket No. INTEL1290-1(P13829X)

Conclusion

Applicants submit that pending claims 1-13 and 16-26 are in condition for allowance. The Examiner is invited to contact Applicants' undersigned representative if there are any questions relating to this submission.

No fee is deemed necessary with the filing of this paper. However, the Commissioner is hereby authorized to charge any fees required by this submission, or credit any overpayments, to Deposit Account No. 07-1896 referencing the above-identified docket number. A duplicate copy the Transmittal Sheet is enclosed.

Respectfully submitted,

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